

AMEND THE SPECIFICATION AS FOLLOWS.

IN THE WITHIN AMENDMENT, A SUBSTITUTE SPECIFICATION IS PROVIDED WITH NUMEROUS AMENDMENTS WITHOUT INCORPORATING NEW MATTER. ACCORDINGLY, A CLEAN VERSION OF SAID SUBSTITUTE SPECIFICATION IS PRESENTED CONCURRENTLY HERewith PURSUANT TO 37 CFR 1.125.

BACKGROUND OF THE INVENTION.

13
GENERALLY, WE, MANKIND, HAVE HAD MAJOR PROBLEMS WITH RELATION TO BATTERIES THAT IS, DEVICES FOR STORING ENERGY FOR USE WHEN DESIRED. . THE PROBLEMS ~~ARE DEFINED AS~~ INCLUDE: THE CHARGING OF BATTERIES, SERVICING OF BATTERIES, THE NON-REUSABILITY OF BATTERIES, AND THE HIGHLY DANGEROUS, HAZARDOUS, AND EXPLOSIVE, ~~ENVIROMENTALLY POLLUTING~~ ENVIRONMENTALLY-POLLUTING CHEMICALS USED IN EXISTING ELECTROCHEMICAL BATTERIES, AND THEIR HEAVY WEIGHT.

OUR THE THERMO-DYNAMIC BATTERY STORAGE UNIT OF THE INVENTION SOLVES ALL OF THESE ISSUES. IT GENERATES CLEAN, USABLE ENERGY, WHILE REMAINING CHEMICAL AND EXPLOSION FREE, LIGHTWEIGHT, ~~RECHARGING VERY FAST~~ RAPIDLY RECHARGEABLE, ECONOMICAL, AND ~~ENVIROMENTALLY FRIENDLY~~ ENVIRONMENTALLY-FRIENDLY.

THE PRESENT ~~INVATION~~ INVENTION RELATES GENERALLY TO A POWER DEVICE FOR USE IN ANY APPLICATION FOR PROVIDING POWER FOR ANY ELECTRICAL DEVICE THAT REQUIRES EMPLOYS BATTERY POWER TO FUNCTION. MORE EXPLICITLY, THE PRESENT ~~INVATION~~ INVENTION DISCLOSES AN INNOVATIVE, HIGH POWER DEVICE, WHICH DOES NOT GENERATE ANY HARMFUL, ~~ENVIROMENTALLY POLLUTING~~ ENVIRONMENTALLY-POLLUTING RESIDUE. ~~IF THE PRESENT INVENTION IS~~ EXTREMELY ~~HIGH ECOLOGICALLY AWARE~~ COMPATIBLE IN OPERATION AND DESIGN, ACTUALLY REPLENISHING CLEAN OZONE BACK INTO THE ATMOSPHERE, ~~IF~~ IS LONG LASTING, AND IS DESIGNED TO BE RE-USABLE UNLIKE CONVENTIONAL UNITS.

OBJECTS OF THE INVENTION.

THE PRESENT INVENTION RELATES GENERALLY TO A NEW POWER DEVICE. MORE ~~DISTINCTIVLY~~ DISTINCTIVELY, IT ~~CREATES~~ PROVIDES GENERATION OF ELECTRICAL POWER FROM COMPRESSED GAS ENERGY.

ANOTHER POSITIVE ATTRIBUTE OF THE PRESENT ~~INVANTION~~ INVENTION IS ~~THE REALITY THAT THE COMPRESSED GAS IS PASSED THROUGH THE GENERATER~~ A GENERATOR, WHICH IS ~~EXCHANGING~~ EXCHANGES THE HEAT WITH THE GENERATOR TO INCREASE THE EFFICIENCY OF THE GENERATOR AND ITS DRIVER DEVICE. ~~THE TURBINE. IT IS MORE COMPLETELY USING THIS~~ ENHANCES EFFICIENCY OF USE OF THE ENERGY, THAT IS STORED AND

CONSERVED IN THE THERMO-DYNAMIC BATTERY STORAGE UNIT IN

A3 ACCORDANCE WITH THE INVENTION.

BRIEF DESCRIPTION OF DRAWINGS

A4 FIG. 1 IS A SCHEMATIC VIEW OF ~~THE~~ A THERMO-DYNAMIC BATTERY STORAGE UNIT IN ACCORDANCE WITH THE INVENTION.

SUMMARY OF THE INVENTION

AS THE PRESENT INVENTION PROVIDES A UNIQUE BATTERY SYSTEM, WHICH PRODUCES FROM COMPRESSED GAS ENERGY, CLEAN USABLE ELECTRICAL POWER FOR USE IN ANY APPLICATION IN ANY DEVICE THAT ~~REQUIRES~~ CAN EMPLOY BATTERY POWER TO OPERATE. THE ~~NEW~~ INVENTION IS MUCH LIGHTER FOR THE SAME ENERGY OUTPUT ~~AS THE CONVENTIONAL~~ THAN EXISTING UNITS, ~~IT~~ CAN BE CHARGED IN MINUTES MINUTES RATHER THAN IN ~~HOURS~~ HOURS, ~~IT~~ AND OPERATES ~~AND IS~~ CHEMICAL AND EXPLOSION FREE. THE ~~NEW~~ INVENTION IS ALSO RE-USABLE UNLIKE CONVENTIONAL BATTERIES, ~~IT~~ IS ~~ENVIROMENTALLY~~ ENVIRONMENTALLY SAFE TO OPERATE, AND OPERATES AT OR ABOUT 90% ~~EFFICIENT~~ EFFICIENCY.

DETAILED DESCRIPTION OF THE INVENTION

plb A ~~THE MAIN PARTS OF~~ THERMO-DYNAMIC BATTERY STORAGE UNIT 1 IN ACCORDANCE WITH THE INVENTION ~~ARE:~~ COMPRISES A TANK 2 FOR COMPRESSED GAS TANK, A GENERATOR 7 CONNECTED WITH AT LEAST TWO

TURBINE FAN SETS 5, 9 IN , ~~SERAESE~~ SERIES, A HEAT EXCHANGER CHAMBER 10 AND A CONTROL UNIT 4, INCLUDING A FLOW CONTROL VALVE 3 FOR CONTROLLING RELEASE OF COMPRESSED GAS FROM TANK 2. TANK 2, CONTROL UNIT 4, AND GENERATOR 7 ARE OF CONVENTIONAL TYPE.

Ab THE GAS RELEASED FROM TANK 2 UNDER CONTROL OF UNIT 4 PASSING THROUGH ~~THE~~ FIRST TURBINE FAN BLADES SET 5 WILL ~~FORCE~~ CAUSE THE GENERATOR 7 TO OPERATE ~~TURN~~, WHICH ~~IS~~ IN TURN GENERATES ELECTRICITY AND SOME INCIDENTAL HEAT. GENERATED HEAT ~~EXPENDS~~ EXPANDS THE COMPRESSED RELEASED GAS CAUSING ~~MORE FORCING~~ THE SECOND SET OF FAN BLADES 9 TO OPERATE ~~TURN~~, WHICH ARE IS TRANSMITTED BACK ~~FEEDBACK~~ TO THE GENERATOR 7 WITH A ~~THE~~ SAME COMMON SHAFT 6 TO ~~TURN~~ OPERATE GENERATOR 7.

THE RELEASED GAS IS ~~DELAYED~~ IN THERMAL CONTACT WITH THE HEAT EXCHANGER CHAMBER 10 LONG ENOUGH TO ACHIEVE ~~GREATE~~ EXPECTED RESULTS. AT THE SAME TIME , THE RELEASED GAS - - WHICH UNDER THE LAWS OF THERMODYNAMICS COOLS AS IT EXPANDS UPON RELEASE - - COOLS DOWN ~~THE~~ GENERATOR 7 AND INCREASES GENERATOR EFFICIENCY THEREBY. GENERATING OF ELECTRICITY IS THUS CONTROLLED BY ~~THE~~ CONTROL UNIT 4 AND FLOW CONTROL VALVE 3.

A METHOD FOR STORING AND USING ENERGY AND EMPLOYING SAME FOR
GENERATING ELECTRIC POWER INCLUDES THE STEPS OF: (1) STORING
ENERGY AND IN THE FORM OF COMPRESSED GAS; (2) CONTROLLABLY
RELEASING SAID GAS TO OPERATE A GENERATOR. THE GAS MAY COMPRISE
AIR, AND THE GAS MAY PASS IN THERMAL CONTACT WITH A HEAT
EXCHANGER WITH THE GENERATOR FOR IMPROVED EFFICIENCY.

THE WITHIN SPECIFICATION AND DRAWINGS DISCLOSE PARTICULAR
EMBODIMENTS OF THE INVENTION, WHICH IS DEFINED BY THE APPENDED
CLAIMS INTERPRETED IN LIGHT OF THE SPECIFICATION AND DRAWINGS.

FOLLOWING IS A CLEAN COPY OF THE AMENDED SPECIFICATION
BACKGROUND OF THE INVENTION.

GENERALLY, WE, MANKIND, HAVE HAD MAJOR PROBLEMS WITH RELATION TO BATTERIES THAT IS, DEVICES FOR STORING ENERGY FOR USE WHEN DESIRED. . THE PROBLEMS INCLUDE: THE CHARGING OF BATTERIES, SERVICING OF BATTERIES, THE NON-REUSABILITY OF BATTERIES, AND THE HIGHLY DANGEROUS, HAZARDOUS, AND EXPLOSIVE, ENVIRONMENTALLY-POLLUTING CHEMICALS USED IN EXISTING ELECTROCHEMICAL BATTERIES, AND THEIR HEAVY WEIGHT.

THE THERMO-DYNAMIC BATTERY STORAGE UNIT OF THE INVENTION_SOLVES ALL OF THESE ISSUES. IT GENERATES CLEAN, USABLE ENERGY, WHILE REMAINING CHEMICAL AND EXPLOSION FREE, LIGHTWEIGHT, RAPIDLY RECHARGEABLE, ECONOMICAL, AND ENVIRONMENTALLY-FRIENDLY.

THE PRESENT INVENTION RELATES GENERALLY TO A DEVICE FOR USE IN ANY APPLICATION FOR PROVIDING POWER FOR ANY ELECTRICAL DEVICE THAT EMPLOYS BATTERY POWER TO FUNCTION. MORE EXPLICITLY, THE PRESENT INVENTION DISCLOSES AN INNOVATIVE, HIGH POWER DEVICE, WHICH DOES NOT GENERATE ANY HARMFUL, ENVIRONMENTALLY-POLLUTING RESIDUE. THE PRESENT INVENTION IS EXTREMELY ECOLOGICALLY COMPATIBLE IN OPERATION AND DESIGN, ACTUALLY REPLENISHING CLEAN OZONE BACK INTO THE ATMOSPHERE, !S LONG

LASTING, AND IS DESIGNED TO BE RE-USABLE UNLIKE CONVENTIONAL UNITS.

OBJECTS OF THE INVENTION.

THE PRESENT INVENTION RELATES GENERALLY TO A NEW POWER DEVICE. MORE DISTINCTIVELY, IT PROVIDES GENERATION OF ELECTRICAL POWER FROM COMPRESSED GAS ENERGY.

ANOTHER POSITIVE ATTRIBUTE OF THE PRESENT-INVENTION IS THAT THE COMPRESSED GAS IS PASSED THROUGH A GENERATOR, WHICH EXCHANGES HEAT WITH THE GENERATOR TO INCREASE THE EFFICIENCY OF THE GENERATOR AND ITS DRIVER DEVICE. THIS ENHANCES EFFICIENCY OF USE OF ENERGY, THAT IS STORED AND CONSERVED IN THE THERMO-DYNAMIC BATTERY STORAGE UNIT IN ACCORDANCE WITH THE INVENTION.

BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 IS A SCHEMATIC VIEW OF A THERMO-DYNAMIC BATTERY STORAGE UNIT IN ACCORDANCE WITH THE INVENTION.

SUMMARY OF THE INVENTION

THE PRESENT INVENTION PROVIDES A UNIQUE BATTERY SYSTEM, WHICH PRODUCES FROM COMPRESSED GAS ENERGY, CLEAN USABLE ELECTRICAL POWER FOR USE IN ANY APPLICATION IN ANY DEVICE THAT CAN EMPLOY BATTERY POWER TO OPERATE. THE INVENTION IS MUCH LIGHTER FOR THE

SAME ENERGY OUTPUT THAN EXISTING UNITS, CAN BE CHARGED IN RATHER THAN HOURS, AND OPERATES CHEMICAL AND EXPLOSION FREE. ENVIRONMENTALLY SAFE TO OPERATE, AND OPERATES AT OR ABOUT 90% EFFICIENCY.

DETAILED DESCRIPTION OF THE INVENTION

A THERMO-DYNAMIC BATTERY STORAGE UNIT 1 IN ACCORDANCE WITH THE INVENTION COMPRISES A TANK 2 FOR COMPRESSED GAS, A GENERATOR 7 CONNECTED WITH AT LEAST TWO TURBINE FAN SETS 5, 9 IN , SERIES, A HEAT EXCHANGER CHAMBER 10 AND A CONTROL UNIT 4, INCLUDING A FLOW CONTROL VALVE 3 FOR CONTROLLING RELEASE OF COMPRESSED GAS FROM TANK 2. TANK 2, CONTROL UNIT 4, AND GENERATOR 7 ARE OF CONVENTIONAL TYPE.

THE GAS RELEASED FROM TANK 2 UNDER CONTROL OF UNIT 4 PASSING THROUGH FIRST TURBINE FAN BLADES SET 5 WILL CAUSE GENERATOR 7 TO OPERATE, WHICH IN TURN GENERATES ELECTRICITY AND SOME INCIDENTAL HEAT. GENERATED HEAT EXPANDS THE RELEASED GAS CAUSING THE SECOND SET OF FAN BLADES 9 TO OPERATE, WHICH IS TRANSMITTED BACK TO GENERATOR 7 WITH A COMMON SHAFT 6 TO OPERATE GENERATOR 7.

THE RELEASED GAS IS IN THERMAL CONTACT WITH HEAT EXCHANGER CHAMBER 10 LONG ENOUGH TO ACHIEVE EXPECTED RESULTS. AT THE

SAME TIME , THE RELEASED GAS - - WHICH UNDER THE LAWS OF THERMODYNAMICS COOLS AS IT EXPANDS UPON RELEASE - - COOLS GENERATOR 7 AND INCREASES GENERATOR EFFICIENCY THEREBY. GENERATING OF ELECTRICITY IS THUS CONTROLLED BY CONTROL UNIT 4 AND FLOW CONTROL VALVE 3.

A METHOD FOR STORING AND USING ENERGY AND EMPLOYING SAME FOR GENERATING ELECTRIC POWER INCLUDES THE STEPS OF: (1) STORING ENERGY AND IN THE FORM OF COMPRESSED GAS; (2) CONTROLLABLY RELEASING SAID GAS TO OPERATE A GENERATOR. THE GAS MAY COMPRISE AIR, AND THE GAS MAY PASS IN THERMAL CONTACT WITH A HEAT EXCHANGER WITH THE GENERATOR FOR IMPROVED EFFICIENCY.

THE WITHIN SPECIFICATION AND DRAWINGS DISCLOSE PARTICULAR EMBODIMENTS OF THE INVENTION, WHICH IS DEFINED BY THE APPENDED CLAIMS INTERPRETED IN LIGHT OF THE SPECIFICATION AND DRAWINGS.

AMEND THE DRAWING FIGURE AS SHOWN IN THE ATTACHED AMENDED
FIGURE.